

```

EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AAAAAA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSSS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MMMM MMMM PP PP LL EE SS
EE XX XX AA AA MM MM MM PP PP LL EE SS
EE XX XX AA AA MM MM MM PP PP LL EE SS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EEEEEEEE XX XX AA AA MM MM PPPPPPPP LL EEEEEEEEE SSSSSSS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AAAAAAAAAA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EE XX XX AA AA MM MM PP LL EE SS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS
EEEEEEEEEE XX XX AA AA MM MM PP LLLLLLLLLL EEEEEEEEE SSSSSSSS

```

```

LL      AAAAAA  BBBB8888  IIIIII  000000  CCCCCCCC  000000  MM      MM
LL      AAAAAA  BBBB8888  IIIIII  000000  CCCCCCCC  000000  MM      MM
LL      AA      AA  BB      BB  II      00      00  CC      00      00  MMMM  MMMM
LL      AA      AA  BB      BB  II      00      00  CC      00      00  MMMM  MMMM
LL      AA      AA  BB      BB  II      00      00  CC      00      00  MM    MM  MM
LL      AA      AA  BBBB8888  II      00      00  CC      00      00  MM    MM  MM
LL      AA      AA  BBBB8888  II      00      00  CC      00      00  MM    MM  MM
LL      AAAAAAAAAA  BB      BB  II      00      00  CC      00      00  MM    MM  MM
LL      AAAAAAAAAA  BB      BB  II      00      00  CC      00      00  MM    MM  MM
LL      AA      AA  BB      BB  II      00      00  CC      00      00  MM    MM  MM
LL      AA      AA  BB      BB  II      00      00  CC      00      00  MM    MM  MM
LLLLLLLLLL  AA      AA  BBBB8888  IIIIII  000000  CCCCCCCC  000000  MM      MM
LLLLLLLLLL  AA      AA  BBBB8888  IIIIII  000000  CCCCCCCC  000000  MM      MM

```

```

FFFFFFFFFF  000000  RRRRRRRR
FFFFFFFFFF  000000  RRRRRRRR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FF          00      00  RR      RR
FFFFFFFFFF  00      00  RRRRRRRR
FFFFFFFFFF  00      00  RRRRRRRR
FF          00      00  RR    RR
FF          00      00  RR    RR
FF          00      00  RR    RR
FF          00      00  RR    RR
FF          000000  RR    RR
FF          000000  RR    RR

```

!File: LABIOCOM.FOR
Version 'V04-000'

```
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```

Logical Function LABIO_INIT(PRIVILEGE)

This routine is used to attach a LABIO user program to the LABIO system. It associated the two event flag clusters and maps to the LABIO global data section.

INPUT: PRIVILEGE - Privileged LABIO users can set this to 1 to allow write access to the data base. All others must set this to 0.

OUTPUT: None - Currently will always return with success code. If an error occurs, FATALERR is called to display the error messages and STOP THE PROCESS!

```
Include 'LABCHNDEF.FOR'
Logical*4 SYSSASCEFC,SYSMGBLSC,SUCCESS,SYSS$WAITFR
External SEC$M_WRT
```

```
! Create event flag cluster EF_NOTIFY and associate with event flags 64-95
! These are used to notify the Data Acquisition process.
```

```
SUCCESS = SYSSASCEFC( %VAL(EF_NOTIFY_1),EF_NOTIFY_CLSTR,,)
If ( .not. SUCCESS)
1 Call FATAL_ERROR( SUCCESS, 'CREATING EVENT FLAG CLUSTER')
```

```
! Create event flag cluster EF_STATUS and associate with event flags 96-127
! These are used to notify and report the status of the user buffers
```

```
!
  SUCCESS = SYSSASCEFC( %VAL(EF_STATUS_1),EF_STATUS_CLSTR,,)
  If ( .not. SUCCESS)
  1   Call FATAL_ERROR( SUCCESS, 'CREATING EVENT FLAG CLUSTER')
!
! Map to the GLOBAL DATA section created by the I/O program
! Wait for event flag EF_CONNECT (non-privileged) or
! EF_DATA_ACQ (privileged) before attempting mapping.
SECTION(1) = %Loc(LABIO_BUFFER_S)
SECTION(2) = %Loc(LABIO_BUFFER_E) - 1
SECTION_FLAGS = 0           !Default flags
If( PRIVILEGE .ne. 0 ) Then
  SECTION_FLAGS=%Loc(SECSM_WRT)
  Call SYSSWAITFR( %Val( EF_DATA_ACQ ) )
Else
  Call SYSSWAITFR( %Val( EF_CONNECT ) )
End If
SUCCESS = SYSSMGBLSC( SECTION,,,%Val(SECTION_FLAGS),'LABIOCOMMON',,)
If( .not. SUCCESS ) Call FATAL_ERROR(SUCCESS,'mapping data section')
LABIO_INIT = SUCCESS
Return
End
```

FATAL_ERROR - FATAL ERROR HANDLER

This routine is used to report a fatal error and exit the image

INPUT: ERROR_CODE - SYSTEM ERROR CODE TO REPORT
 ERROR_MESSAGE - ERROR MESSAGE TO BE PRINTED

OUTPUT: NONE

>>>> THIS ROUTINE DOES NOT RETURN <<<<<

FUNCTION: TYPEs the message

'process name-FATAL ERROR - error_message'

Then prints system message corresponding to ERROR_CODE

Finally, exits image by calling LIB\$STOP

Subroutine FATAL_ERROR(error_code,error_message)

Integer*4 ERROR_CODE
 Character ERROR_MESSAGE*(*)
 Logical*4 SUCCESS,SYSS\$CREMBX,SYSS\$GETJPI
 Integer*2 JPI2(8),PROCESS_NAME_L
 Integer*4 JPI4(4)
 Character*15 PROCESS_NAME
 Equivalence (JPI2,JPI4)
 Parameter JPI\$_PRCNAM='31C'X

Get the process name

JPI2(1) = 15 !Number of elements in name
 JPI2(2) = JPI\$_PRCNAM !Want process name
 JPI4(2) = %Loc(PROCESS_NAME) !Address of process name
 JPI4(3) = %Loc(PROCESS_NAME_L) !Address of process name length
 JPI4(4) = 0 !Terminate list

Call SYSS\$GETJPI(,,,JPI4,,)

Print the process name and error message

Type 100, PROCESS_NAME(1:PROCESS_NAME_L),ERROR_MESSAGE

Print the error message corresponding to ERROR_CODE and exit

Call LIB\$STOP(%Val(ERROR_CODE))

100 Format(' 'A,' - FATAL ERROR ',A)

Stop

END

![End of File]

